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Reconciling Selectorate Theory with Democratic Erosion: The Role of Polarization

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RECONCILING SELECTORATE THEORY WITH DEMOCRATIC EROSION: THE ROLE OF POLARIZATION

by

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Under the direction of Jennifer McCoy, PhD

ABSTRACT

Over the past decade, several wealthy democracies have experienced democratic erosion. Despite their actions, several leaders have remained in power. I explain these occurrences by taking selectorate theory, a prominent rational choice model, and adding components from recent work on political polarization. I test the theory with a Cox proportional hazards competing risks model, which provides some support for the theory.

INDEX WORDS: Selectorate theory, Polarization, Democratic erosion

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DEDICATION

This thesis is dedicated to the memory of my grandmother, Frances Sharman.

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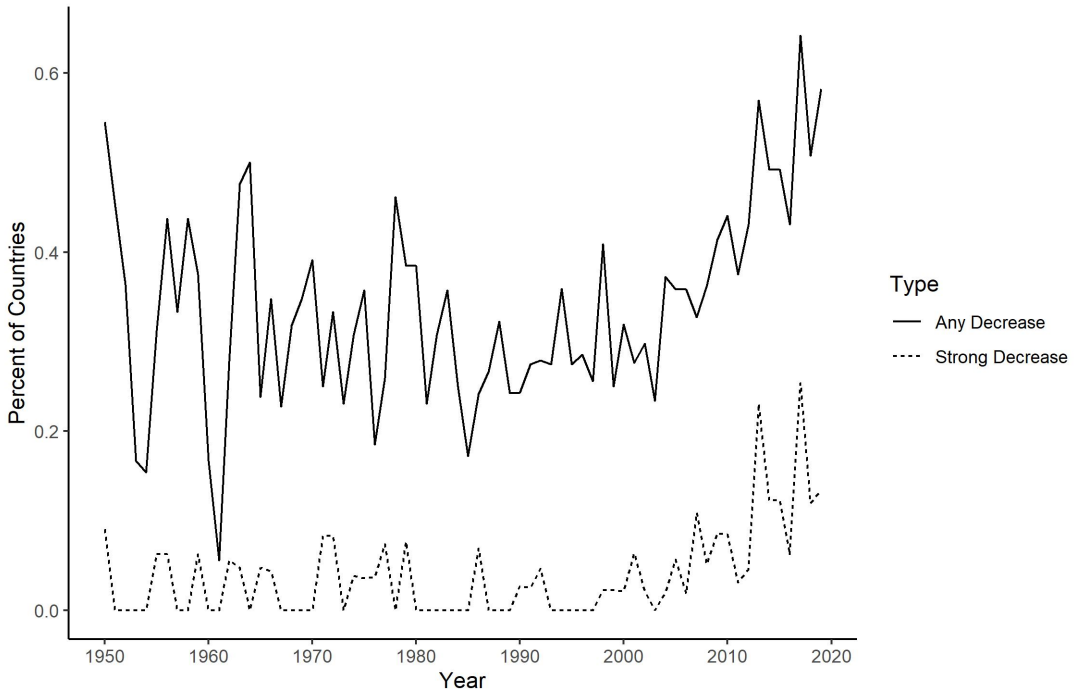
1 INTRODUCTION

March 30, 2020, marked a milestone in political science. Until that date, conventional wisdom in political science purported that wealthy democracies would not revert to authoritarianism, at least without high levels of oil wealth. While a young democracy, Hungary clearly met these conditions. The country began undergoing democratic erosion, the process of government-led, gradual changes in the quality of democracy, in 2010 when Viktor Orbán and the Fidesz party returned to power. By 2020, several major democracy indexes considered Hungary on the cusp of a hybrid regime including Economist Intelligence Unit (2020), Freedom House (2020), and Varieties of Democracy Institute (2020). Hungary's transformation to a hybrid regime was completed on March 30 when the coronavirus pandemic allowed Fidesz to give Orbán emergency powers (Bakke, Mitchell, and Smidt 2020; Morris 2020).

Hungary is the prototypical example of a worldwide trend. Poland began experiencing democratic backsliding in 2015 after Law and Justice (PiS) swept the parliamentary and presidential elections. Turkey lost its status as a democracy in 2017 following president Recep Tayyip Erdoğan's successful constitutional referendum to enhance his office's powers. Perhaps the most significant example has been that of the United States (US), once considered the bulwark of liberal democracy, where Donald Trump attacked democratic institutions and the legitimacy of his political opponents and continued to do so during his presidency. Both Economist Intelligence Unit (2020) and Varieties of Democracy Institute (2020) moved the US to a flawed regime during Trump's presidency.

Figure 1 demonstrates the existence of a trend in recent years where several wealthy democracies have experienced democratic erosion. This graph restricts countries to those that qualify as wealthy and as democracies. It then takes the one-year change in the Varieties of Democracy (V-Dem) polyarchy index and calculates the percentage of wealthy democracies that experience a decline in the index over the past year. In the past decade, the total number experiencing a decline has reached new highs despite having a larger number of

Figure 1: Percentage of Wealthy Democracies Experiencing Decrease in Polyarchy Index By Year



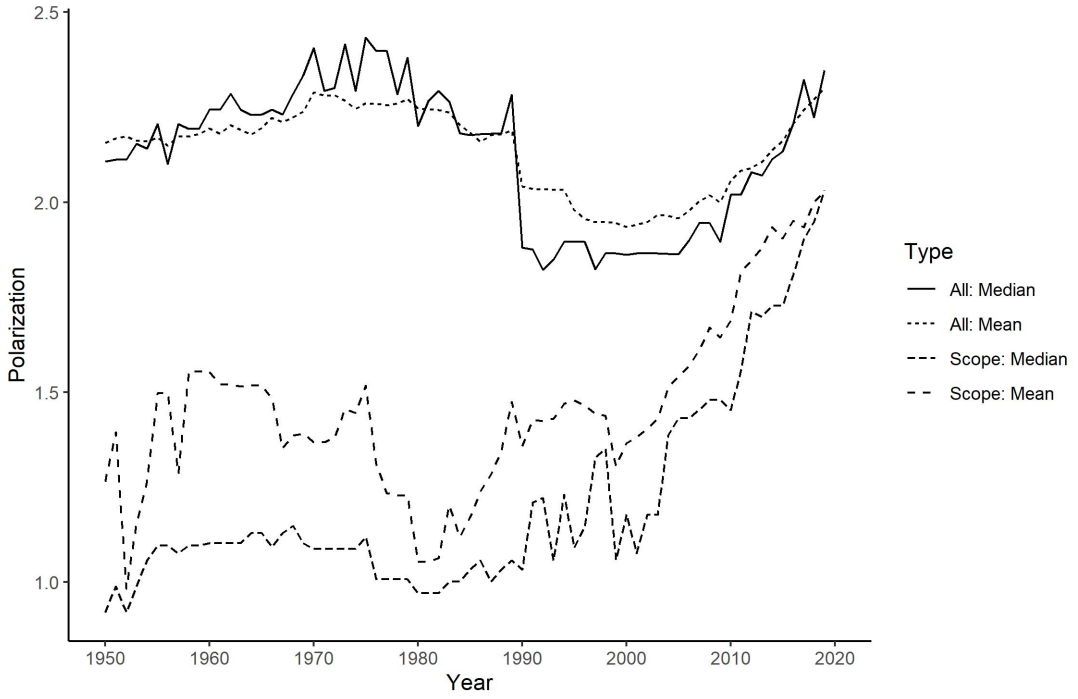
Sources: GDP per capita from Maddison Project (Bolt et al. 2018); democracy from Bjørnskov and Rode's (2020) coding of DD (Alvarez et al. 1996; Cheibub, Gandhi, and Vreeland 2010); and democratic erosion from V-Dem polyarchy index (Coppedge et al. 2020a).
Notes: Countries are defined as wealthy if they have a GDP per capita greater than or equal to $8,349.69 in 2011 American dollars. Being coded as a democracy depends on the DD rules. Countries are included if they meet both conditions that year or the previous year or if the year is 2017, 2018, or 2019 and qualified in 2016. Democratic erosion is measured as the one year change in the polyarchy index multiplied by 100. A country experiences democratic erosion if the change is negative and strong if at least -3.

wealthy democracies than at any other point—there were 11 in 1950 and 67 in 2017–19. That means only six wealthy democracies experienced a decline in 1950 compared to 43 in 2017. I define a strong decline as one larger than three points (less than -3), more than twice the first quartile of -1.2. The percentage facing strong declines has also peaked in the past decade.

One of the most confounding aspects of democratic erosion is that several leaders have survived despite their democracy-eroding actions. Despite presiding over significant democratic backsliding, prime minister Andrej Babiš of the Czech Republic won reelection after losing a motion of no confidence in 2018. Serbian prime minister Aleksander Vuçić left office

to run for president where he has continued to exercise significant power. Polish president Andrzej Duda narrowly held on to power during the presidential elections in June and July 2020, and the fate of Donald Trump is unknown although several political scientists believe that his reelection is increasingly unlikely (Abramowitz 2020; Bitecofer 2020; "Forecasting the US Elections," n.d.).

Figure 2: Polarization Worldwide Over Time



Sources: GDP per capita from Maddison Project (Bolt et al. 2018); democracy from Bjørnskov and Rode's (2020) coding of DD (Alvarez et al. 1996; Cheibub, Gandhi, and Vreeland 2010); and polarization from V-Dem (Coppedge et al. 2020a).
Notes: Scope countries refer to wealthy democracries. Countries are defined as wealthy if they have a GDP per capita greater than or equal to $8,349.69 in 2011 American dollars. Being coded as a democracy depends on the DD rules. Countries are included if they meet both conditions that year or the previous year or if the year is 2017, 2018, or 2019 and qualified in 2016.

Polarization has also trended upward over the past couple decades, much like democratic erosion. Figure 2 displays how mean and median polarization, using V-Dem's measurement, has changed since 1950 among all coded countries and among all coded wealthy and democratic countries. Polarization for all countries, using either the median or mean, dipped around 1990. Since 2010, it has risen to nearly pre-1990 highs. The pattern is clearest for

wealthy democracies. Mean polarization in wealthy democracies decreased in 1980 and again reached pre-1980 levels in 1990. It has only increased since 1990, reaching a new peak about 25% higher than the previous peak. Median polarization remained fairly low until about 2003 and has then doubled.

A major question is whether these trends are connected. In this thesis, I argue that that they are related and use selectorate theory to link them. In short, polarization shifts the focus of political competition to identity. These circumstances allow politicians to harm democratic institutions yet avoid punishment. Voters approve of democratic erosion as a means to keep other groups out of power. Even if they disapprove, they cannot bring themselves to vote for another party. I test this theory with a series of survival models, which provide some support.

The thesis proceeds as follows. Section 2 is a literature review split into two parts. The first part focuses on selectorate theory and the second on political polarization. I explain the theory in section 3 and create two testable hypotheses. The methodology and data are described in section 4. I present the results of the models in section 5. Finally, I discuss the results and conclude in section 6.

2 LITERATURE REVIEW

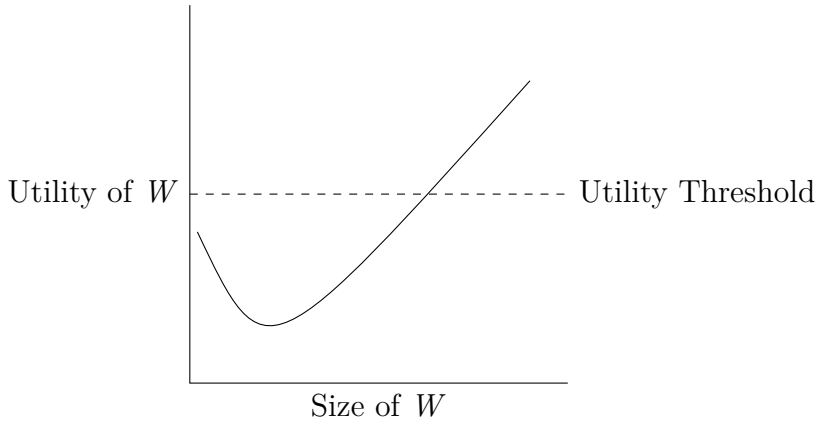
2.1 Selectorate Theory

Selectorate theory is a rational choice model that explains and predicts policy choices in broad terms. Although institutionally-minded, it uses the incentive of political leaders, or politicians, as a base. All politicians want to get power and keep power, a standard assumption in rational choice models of politics (e.g., Bueno de Mesquita and Lalman 1994; Mayhew 1974; Mintz 2004). Even civic-minded politicians have this incentive because they require power to implement their policies. If possible, leaders will shift political institutions to make survival easier and increase the discretionary resources that they can use for purposes like public projects or corruption. Regardless of the precise motivation, politicians view

their decisions through the prospect of survival (Bueno de Mesquita et al. 2003, 15–23). Selections institutions, the political institutions that choose leaders, structure politicians' incentives. These institutions exist in three nested groups. Anybody living in the polity is in the residents. Residents with a formal, government-sanctioned role in leadership selection who can potentially join the winning coalition are in the selectorate. The disenfranchised are residents not in the selectorate. Legal suffrage is sufficient for selectorate membership in democracies. The selectorate forms a pool of possible supporters when election time comes. The winning coalition has sufficient political power to keep the leader in office or elevate a challenger (37–57). The size of the winning coalition can vary substantially, especially in non-democratic regimes. For democracies, the winning coalitions are approximately one-fourth to one-half of the residents, or total population, for parliamentary and presidential systems, respectively (Bueno de Mesquita and Smith 2010).

The policy implications of selectorate theory come from the size of the winning coalition and relationship between the winning coalition and selectorate. Politicians attract support through proposed tax rates and government-provided private goods and public goods. Only members of the winning coalition will derive utility from private goods, but the benefits of public goods go to all residents. When the winning coalition includes a relatively small number of residents, government spending will prioritize private goods as the most efficient means of attracting support. Larger winning coalitions will cause a focus on public goods because the cost of private goods increases linearly with the winning coalition and becomes too expensive. The loyalty norm, or the probability of inclusion in future winning coalitions, determines how much the regime spends. When the winning coalition and selectorate are close in size, winning coalition members have less loyalty to the leader because they have a high probability of inclusion in future coalitions. Therefore, the leader spends highly to retain their support. Winning coalition membership is rare and precious when the winning coalition is much smaller than the selectorate, so the leader can spend less (Bueno de Mesquita et al. 2003, chap. 3).

Figure 3: Bueno de Mesquita et al.'s (2003) Explanation for Why Wealthy Democracies Survive



Source: Adapted from Bueno de Mesquita et al. (2003, 390, fig. 8.2).

These policy implications drive the institutional arrangements that different groups in society want. Leaders want small winning coalitions and, if possible, large selectorates to maximize their time in office and minimize spending. The disenfranchised want a large winning coalition and a large selectorate because they still receive the benefit of high-spending on public goods (Bueno de Mesquita and Smith 2009; 2017; 2018) The winning coalition has a more dynamic interest. Figure 3 models how the utility of the winning coalition shifts over different winning coalition sizes. Below the dotted line, or the wealth threshold, the winning coalition could increase its welfare by either expanding or contracting. Once the threshold is crossed, the decreases in size can no longer benefit the winning coalition because winning coalitions that large require extremely high levels of spending. Therefore, any attempt by the leader to decrease the size of a winning coalition that has crossed the wealth threshold should result in the leader losing the winning coalition's support (Bueno de Mesquita et al. 2003, 388–92).

2.2 Polarization

Polarization refers to situations in which something splits into two extreme groups. For a more formal definition, polarization focuses on three axioms: one, there is strong within-

group homogeneity; two, there is strong inter-group heterogeneity; and three, there are a few groups of substantial size, ideally two (Esteban and Ray 1994). Political science and related fields have long considered polarization in a political context, but the meaning of political polarization has varied. Much of this literature emerges from American politics where polarization has emerged into a near consensus. However, while debate on the existence of polarization is light, there remains substantial disagreement on whether polarization is an elite or mass phenomenon and the precise meaning of polarization. I will begin by discussing polarization in the American politics literature and then move to comparative literature.

Perhaps the most agreed upon finding in the American literature is the existence of ideological polarization at an elite level. Elite polarization emerges when elected members of parties have extremely similar ideologies with little overlap between members of separate parties. This fact is seemingly uncontested by the overwhelmingly majority of academics. In the modern Congress, it is extremely rare to see a single Democrat more conservative than a single Republican or a single Republican more liberal than a single Democrat (Barber and McCarty 2015). The debate is more focused on what causes elite polarization. For example, many scholars focus on structural factors originating from how parties are organized and how it encourages partisan competition (Edwards 2012; Lees 2016; Mann and Ornstein 2012; Sinclair 2006), including institutions at a local level (Masket 2011). Others have focused on mass polarization.

Mass polarization refers to a similar situation to elite polarization except it happens among voters and the general population. Agreement on mass polarization is more contentious than elite polarization. Most agree that Americans are more consistently Democratic or Republican and that these partisan identities strongly align with ideologies or at least ideological identities. Nearly all self-identified liberals are Democrats, and nearly all self-identified conservatives are Republicans (Abramowitz and Saunders 1998; Levendusky 2009). Academics have disagreed on the meaning of this alignment. Some claim that partisan sorting reflects genuine diverging of ideological preferences among American voters

(Abramowitz and Saunders 2006; 2008). Others argue that voters' ideologies have remained relatively stable, but voters have better sorted themselves into parties fitting their ideologies (Fiorina 2017). On the other hand, the relationship can be more complex. Voters rely on parties to identify policy positions, so extreme elite opinions can bleed into the general population. The resulting diverging of ideologies can fuel further polarization (Baldassarri and Gelman 2008; Rogowski and Sutherland 2016).

Political identity has been an enduring trait of voting in studying American politics. Most studies find that voters do not have strongly developed ideologies and policy positions, nor do they hold these views consistently. Instead, voters latch on to salient identities as heuristics, the famed "mental shortcuts" (see Gilovich and Griffin 2002), to make political decisions and develop some policy opinions. While social or demographic identities influence these processes, the most powerful is simple partisanship (Bartels 2000; Campbell et al. [1960] 1980; Converse [1964] 2006; Lewis-Beck et al. 2008). Polarization seems to be partially driven by the alignment of multiple identities together. For example, the polarization of American politics has followed the connection of racial identities into political parties, namely white Americans into the Republican party and non-white Americans into the Democratic party (Abramowitz and McCoy 2019; Abramowitz 2018; Carothers 2019). American politics has increasingly polarized along identities to a greater extent than ideology (Mason 2018). Partisan, religious, racial, and gender identities increasingly go along with each other, and the effect of having aligned identities is multiplicative, not additive (Huddy, Mason, and Horwitz 2016). For example, Republicans who are white, Christian, and male have much stronger ties to being Republican than, say, Republicans who are female or not white (Mason and Wronski 2018).

Polarization as the aligning of identities has proven influential in comparative politics with the theory of pernicious polarization (McCoy, Rahman, and Somer 2018; hereafter MRS 2018). Pernicious polarization begins in social identity theory. People identify with groups and form their identities and concepts of the self around the groups that they identity

with. This leads to people liking members of their own group and disliking people not in the group, otherwise known as the outgroup (Tajfel and Turner 1979; 1986). This is referred to as affective polarization. Pernicious polarization begins with underlying cleavages that present the potential to engender polarization (MRS 2018). Movements led by either elites or masses weaponize negative discourse such as attacking political opponent's integrity or other personal features, heightening negative partisanship, or the dislike of the opposing party, and affective polarization (Abramowitz and Webster 2016; Iyengar et al. 2019). This genesis stage often overlaps the ideational approach to populism. Under this approach, populism focuses on a good versus evil symbology; a "homogenous and virtuous" people; and a corrupt elite working against the people (Hawkins and Kaltwasser 2019, 3; Müller 2016).

The second phase involves the consequences of group identity stemming from social identity theory. Group members like each other more strongly, which does not inherently lead to dislike of other groups. However, it opens up the possibility of growing affectiveness along with the intentional or unintentional ability by political elites to feed into these feelings (MRS 2018). This can lead to further extremism as groups tend to polarize (Sunstein 2002). The growth of political polarization changes behavior. Primarily, members of each group increase social distance with the other group, meaning that they interact with each other less frequently. Members perceive their groups as "we" and the other as "them," locked in a form of competition. Political competition becomes increasingly zero-sum—a win for "them" becomes a loss for "us." Such perceptions eliminate the possibility of political cooperation and compromise (Carlin and Love 2018; MRS 2018; McCoy and Somer 2019; Somer and McCoy 2018).

When this causal chain reaches its most extreme consequences, it can lead to democratic erosion. Groups see other groups as existential threats to their rights, way of life, and even existence. Therefore, they accept democratic erosion and attacks on liberalism as a means of protecting themselves (MRS 2018). Case study work has applied pernicious polarization

to occasions of democratic erosion several times in the past few years, including Hungary (Vegetti 2019), Poland (Fomina 2019; Tworzecki 2019), Turkey (Aydin-Düzgit 2019; Somer 2019), and the US (Abramowitz and McCoy 2019; Carothers 2019).

3 THEORY

I argue that polarization can explain why selectorate theory has incorrectly predicted that democratic erosion causes a leader to lose power. To summarize the argument, large winning coalitions are inherently electoral democracies. Liberal democracy emerges from electoral democracy. While liberal components of democracy are usually the first to erode, like independence of the judiciary or freedom of the press, this presages attacks on electoral democracy and attempts to manipulate elections. The winning coalition, in the absence of polarization, would stop supporting the leader when they attempt to undo electoral democracy. However, polarization leads them to continue supporting the leader out of obedience to their partisan and social identities or out of unwillingness to allow the other group to come to power. Polarization thus lifts the constraint of democratic norms on leaders and allows leaders to change institutions in their favor.

Conceptions of democracy are often split into electoral democracy and liberal democracy, otherwise known as the "minimal" and "maximal" conceptions, respectively. Minimal theorists, like Popper (1945) and Schumpeter (1942), define democracy solely through the existence of competitive elections that can lead to a change in government. Maximal conceptions, associated with Dahl (1956; 1971; 1984; 1989; 2015) and his idea of polyarchy, argue that democracy also requires substantive rights like freedom of expression, freedom of assembly, and political equality (Przeworski 1999; Teorell et al. 2019). Selectorate theory's concept of the large winning coalition is electoral democracy, which better fits the minimal definition. A large winning coalition requires that somewhere around 25% of the population is included in the winning coalition (Bueno de Mesquita and Smith 2010). At this point in human history, only a system with a minimum of electoral democracy (since a liberal

democracy have already achieved the electoral components) has achieved that size.

Selectorate theory does not ignore liberal democracy, however. Electoral democracies, which I will now use interchangeably with large winning coalitions, produce greater public goods. Selectorate theory, like many political science theories, borrows the idea of public goods from economics. Public goods have two qualities. One, they are non-excludable, meaning that their enjoyment cannot be restricted to only those who have contributed to the good. Two, they are non-rivalrous, meaning that one person's usage of the good does not prevent someone else from using it (Samuelson 1954; 1955). Classic examples in political contexts include air quality and defense spending. You cannot restrict someone who has not paid for air from breathing it, nor does one citizen being protected from foreign threats prevent another citizen from doing the same.

Selectorate theory relies on an expansive definition of public goods. We might more accurately say that a public good in selectorate theory is something provided by the government that the regime cannot restrict only to supporters. Of course, this may take an economic form. Leaders and parties who rely on working class voters may implement greater unemployment benefits or welfare programs. Public goods can also take form of political rights. In responding to claims that the winning coalition variable measures democracy (Clarke and Stone 2008), Morrow et al. (2008) write that

> The expansion of suffrage brought about a vast expansion in the sizes of winning coalitions in established democracies... [but] Our theory treats features that others see as necessary for democracy to function, such as a free press, as public goods that are provided by leaders who answer to a large winning coalition [i.e. electoral democracy], but not provided by those who answer to a small one ... [therefore, their task is] separating the effects of the size of the winning coalition from the effects of *other* elements [i.e. the liberal components] of democracy. (394; italics mine)

Liberal democracy, therefore, emerges as an outcome of electoral democracy in selectorate

theory.

Most instances of democratic erosion involve attacks on the liberal components, at least initially (see also Bermeo 2016; Ginsburg and Huq 2018; Varol 2015). To cite a few examples, PiS in Poland, led by party leader and former-prime minister Jarosław Kaczyński along with president Andrzej Duda,[1] initiated its attacks on Polish democracy through increasing political control of the judiciary and pressuring media outlets (Pryzybylski 2018). In India, campaigning, including by the prime minister Narendra Modi and the ruling Bharatiya Janata Party (BJP), frequently involves attacking the legitimacy of independent institutions like banks, courts, and electoral commissions (Sahoo 2019). From a comparative perspective, one of the most common signs of the would-be authoritarian is supporting restrictions on civil liberties (Levitsky and Ziblatt 2018).

Under the selectorate framework, all of these actions qualify as reductions in liberal democracy but not electoral democracy. But I argue that while democratic backsliding often begins with attacks on liberal democracy, the quality of electoral democracy is intertwined with these attacks. Attacking liberal components rarely serves as its own end. These actions serve the goal of making survival easier. Redrawing electoral districts and manipulating electoral rules can give the party decisive advantages in most elections. Control over the judiciary prevents legal challenges from interfering with these plans. A weak independent press restricts information of the regime's unpopular decisions from and, in tandem with the curtailing of civil liberties like freedom of assembly, impedes the coordination of opposition parties. Successfully rigging elections starts long before voters go to the polls. The classic image of stuffing ballot boxes is the last resort (Cheeseman and Klaas 2018).

The winning coalition should serve as the bulwark against these tactics succeeding. When a leader restricts civil and electoral rights, they are restricting the number of people who enjoy those public goods. By decreasing the size of the winning coalition, the leader guarantees that

1. PiS has adopted a unique structure of its party governance. Although Kaczyński leads the party and served as prime minister during its last stint in power (Kaczyński's twin brother served as the president), he decided not to take a formal government position out of fear that he is personally unpopular. Most agree that Kaczyński runs the government behind the scenes (Pryzybylski 2018).

the winning coalition's utility decreases from its current state. Utility decreases both become some members will be forced from the winning coalition, but those remaining in the winning coalition will also receive less public goods. Here, identity enters the equation. People like to belong to groups and then make decisions that fit within their groups' expected behaviors (Akerlof and Kranton 2010). Partisans are obviously expected to vote for members of their party. Other identities may or may not have associated political expectations. Women might enjoy voting for other women, for example, should they have the option. Supporters of the association football team A.C. Milan might have supported Silvio Berlusconi's campaigns for prime minister since he owned the team during its glory days. Social identities can fluctuate in the extent that they affect political decisions.

Polarization heightens the influence of identity in political life. Most people identify with a party and strongly like their co-partisans in addition to strongly disliking members of the other party. Further, several other identities align under partisan banners and intensify in-group attachment and out-group hate. At times of low polarization, even partisans can accept occasionally supporting members of another party. With high polarization, hatred of the opposite party is too extreme. Even if one dislikes the nominee of their party, they cannot bring themselves to vote for somebody else. For example, a Republican may dislike Donald Trump's rhetoric but finds Democrats far too unacceptable to vote for them. Empirical evidence for this phenomenon is building (Graham and Svolik 2020; Svolik 2019).

Therefore, polarization lifts the winning coalition's constraint on the leader. The leader may attack liberal democracy with the goal of harming electoral democracy. The winning coalition does not throw the leader out either because they are too attached to the party, they dislike (or fear) the opposite party too much, or a mixture of both. Acting against your identities causes such a loss in utility that you prefer a loss of utility from receiving less public goods to voting for another party.

3.1 Hypotheses

We can now phrase the theory into two hypotheses. The first hypothesis, which I call the selectorate hypothesis, is

Hypothesis 1 *Decreases in the utility from public goods increase the probability that a leader (party) loses power.*

This hypothesis expresses the expectations of selectorate theory that the winning coalition will strike back against a leader who proposes a reduction in its size once the welfare threshold has been passed. My expectation is that, to some extent, this hypothesis will *not* hold, especially at higher levels of polarization, because polarization allows leaders to attack electoral democracy and avoid repercussion.

The second hypothesis amends hypothesis 1. This hypothesis states that:

Hypothesis 2 *As polarization increases, the marginal effect of decreases in the utility from public goods on the probability that a leader (party) loses power decreases.*

By increasing the payoff that voters receive from voting for members of their tribes, or heightening the penalties of voting for members of opposing identities, polarization allows leaders to survive attacks on electoral democracy.

4 RESEARCH DESIGN

4.1 Methodology

The hypotheses are tested using survival analysis, also known as event history or duration analysis (see Box-Steffensmeier and Jones 2004). Specifically, I use a Cox proportional hazards (Cox PH) competing risks framework. The model tests the probability that a leader or party loses power at a given time. Competing risks refers to the fact that leaders or parties can lose power due to multiple types of events. They can lose power through elections or through other, non-electoral processes such as impeachments or resignations. The Cox PH

calculates a different baseline hazard for each event. The baseline hazard is the expected risk before accounting for independent variables, so it is comparable to a intercept in a standard regression model or, perhaps more accurately, a random intercept model. The variables modify this baseline hazard, so a positive coefficient indicates a greater risk than expected and a negative coefficient less risk. For hypothesis 1, we expect to see the change in electoral democracy variables that I define later increase the hazard for both elections and non-elections in the absence of polarization. When polarization increases, the marginal effect of the change in electoral democracy variables will decrease according to hypothesis 2.

4.2 Data

4.2.1 Scope

Observations must meet four conditions to be included in the sample. These conditions are:

1. Its country-year V-Dem entry has a coded political polarization value;
2. The country qualifies as an electoral democracy;
3. The country qualifies as wealthy; and
4. Selectorate theory applies to the country's executive structure.

The first condition is purely practical. I have only one variable used to measure political polarization, and polarization is integral to the analysis. Therefore, I require that V-Dem has coded political polarization for at least one year in the term. Conditions two and three serve theoretical purposes.

Hypothesis 1, and by extension hypothesis 2, applies only to electoral democracies. The theory section details my argument for equating selectorate theory's conception of a large winning coalition with electoral democracy. To briefly reiterate this argument, a large winning coalition requires that leader depends on a relatively large segment of the residents, or

total population, to maintain power. This cutoff appears to be around 25% of the population. Only electoral democracy achieves this goal. Conceptions of democracy that require more than simply competitive elections, called liberal democracy, are outcomes of electoral democracy. Refer to section 3 for further detail. In short, I am relying on the minimal definition of democracy.

Now, we need to turn this definition into a measurable variable. The Regimes of the World (RoW) typology uses V-Dem data to create categories from continuous measures. While they separate electoral and liberal democracies, they still rely on the polyarchy index (Lührmann, Tannenberg, and Lindberg 2018), which uses a more maximal than minimal definition. Instead, I use the Democracy-Dictatorship (DD) rules. This system categorizes countries into democracies and non-democracies based on a minimal definition. Democracies, in this ruleset, must meet four conditions:

1. A chief executive either popularly elected or chosen by a popularly-elected body;
2. A popularly-elected legislature;
3. Multi-party electoral competition; and
4. Alternation in power under the same electoral rules that brought the incumbent into power (Alvarez et al. 1996; Cheibub, Gandhi, and Vreeland 2010).

The fourth condition essentially serves as evidence of a genuine democracy. However, it creates ambiguity when a party has not lost an election under otherwise genuinely democratic rules. Most ambiguous cases are moot because they do not meet the wealth requirement. Of ambiguous cases meeting the wealth requirement, I include both Botswana and South Africa after they cross the wealth threshold I include Mexico starting in 1994 rather than 2000. I use Bjørnskov and Rode's (2020) dataset because theirs is the most updated, being coded through 2019.[2] The dataset starts at 1950, so it does exclude a few years that might

2. Bjørnskov and Rode's (2020) data are accessible at http://www.christianbjoernskov.com/bjoernskovrodedata/.

have met the requirements earlier.

The third condition is the utility threshold, or the point when the winning coalition receives more benefits being large than it could being small. Wealth is used to approximate the utility threshold. Bueno de Mesquita et al. (2003) estimate this figure at a gross domestic product (GDP) per capita of $6,055 in 1985 dollars based on Przeworski et al. (2000) and Przeworski and Limongi (1997). Those studies find that within their decades-long sample, no country coded as a democracy according to the DD rules with a GDP per capita above that threshold reverted to authoritarianism. However, they find a lower threshold of $4,000 in 1985 dollars that nearly guarantees survival. Given the randomness of the social world, guaranteed and near guaranteed—or sufficient and nearly sufficient—have little practical difference (Clark, Gilligan, and Golder 2006; Ragin 2008). Therefore, I use the lower threshold. I retrieve the GDP per capita data from the Maddison Project (Bolt et al. 2018).[3] Some countries meet the wealth requirement and then briefly dip under the threshold. For these countries, I keep them in the sample continuously if they return to the wealth requirement within five years (although any drop from the democracy requirement leaves the sample).

The final condition is specific to selectorate theory. Selectorate theory assumes that countries can be reasonably reduced to one leader. The vast majority of cases meet this condition. Even in mixed systems where a separate head of government and head of state each have some level of power, we can reduce them to one chief executive. The rare cases have plural executives. This eliminates Switzerland in addition to Bosnia and Herezogvina. Each has an executive council. While the councils have a rotating presidency and chairmanship, respectively, these offices are primarily ceremonial (Church 2004; D. J. Smith 2020, 218–20). Lebanon, to ease religious tension, vests executive powers in three different offices, the prime minister, president, and speaker of parliament (Salamey 2014), so I exclude Lebanon too.

3. The Maddison Project data are accessible from https://www.rug.nl/ggdc/historicaldevelopment/maddison/releases/maddison-project-database-2018.

Table 1: Countries and Years in Sample

Country	Start	End
Albania	2005	2019
Argentina	1946	1955
Argentina	1958	1966
Argentina	1973	1976
Argentina	1984	2019
Armenia	2008	2019
Austria	1959	2019
Barbados	1967	2019
Belgium	1954	2019
Botswana	1998	2019
Brazil	1995	2019
Bulgaria	1991	2019
Canada	1945	2019
Chile	1990	2019
Colombia	2006	2019
Croatia	1990	2019
Czech Republic	1992	2019
Denmark	1948	2019
Dominican Republic	2004	2019
Ecuador	2007	2019
Estonia	1991	2019
Finland	1978	2019
France	2007	2019
Georgia	2008	2019

Table 1 continued from previous page

Country	Start	End
Germany	1953	2019
Hungary	1990	2019
Iceland	2018	2019
Indonesia	2009	2019
Ireland	1967	2019
Israel	1963	2019
Italy	1960	2019
Japan	1964	2019
Latvia	1990	2019
Lithuania	1990	2019
Malaysia	2008	2019
Malta	1976	2019
Mauritius	1983	2017
Mexico	1995	2019
Mongolia	2009	2019
Netherlands	1952	2019
New Zealand	2005	2019
Norway	1949	2019
Panama	1994	2019
Paraguay	2013	2019
Peru	2006	2019
Poland	1991	2019
Portugal	1986	2019
Romania	2001	2019
Serbia	2006	2019

Table 1 continued from previous page

Country	Start	End
Slovakia	1992	2019
Slovenia	1990	2019
South Africa	1999	2019
South Korea	1988	2019
Spain	1976	2019
Sri Lanka	2010	2019
Sweden	1948	2019
Taiwan	2000	2019
Thailand	2005	2006
Thailand	2008	2014
Trinidad and Tobago	1963	2019
Tunisia	2012	2019
Turkey	1984	2015
Ukraine	2005	2019
United Kingdom	1945	2019
Uruguay	1985	2019
Venezuela	1974	2019

Table 1 presents every country in the sample with the first and last year that they are in the sample. For countries that leave and reenter the sample, I split them into several rows. The sample includes 62 countries spanning 2040 years. I start including a country in term with the year that it first meets all four scope conditions, hence some countries begin before 1950. Broken down into terms, there are 526 leader tenures broken into 751 terms. There are 341 party tenures across 606 terms.[4] I clarify terms and tenures in the next section.

4. Note that the US is excluded because V-Dem does not include polarization values for it.

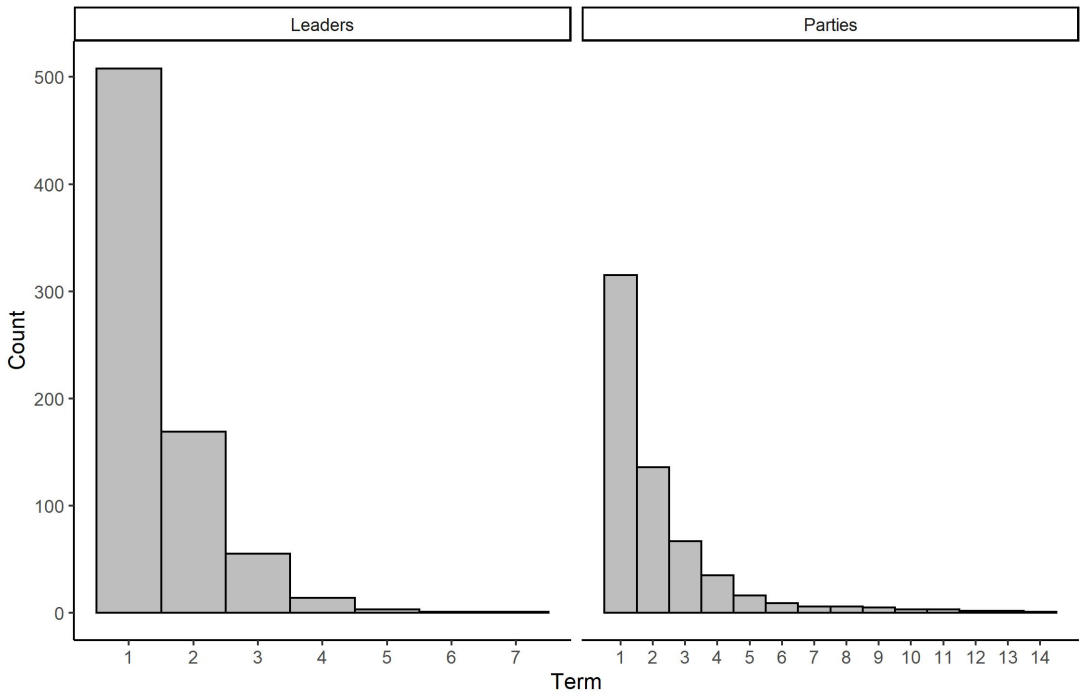
4.2.2 Dependent Variable

The dependent variable is tied to the analysis strategy. For each term, the dependent variable is whether the leader or party loses power due to an election or a non-electoral event. A term refers to a period between elections in which one unit of observation holds power. For example, United Kingdom (UK) prime minister David Cameron came to power in 2010 after the Conservatives won the 2010 parliamentary elections, beginning his first term. He and the Conservatives won another term in power after winning the 2015 parliamentary elections. He resigned in 2016, and Theresa May began her first term in power after the Conservatives chose her as Cameron's successor. She won an election in 2017, marking her second term. Boris Johnson succeed May in 2019 after she resigned and began a second term also in 2019 following an election. From 2010 to 2019, the UK had three leaders across six leader terms. Four party terms occurred in the same time span. The first began after the Conservatives won the 2010 elections and the second when they won the 2015 elections. When Cameron resigned, the Conservatives remained in power with May, so a third term did not start until they won the 2017 elections. The Conservatives continued in power after Johnson succeeded May. A fourth term started after they won the 2019 elections.

Figure 4 presents the distribution of terms for both leaders and parties. Note that the count begins when the leader or power enters power, *not* when they enter the sample. The first term in a country, therefore, might be after one. For example, the Institutional Revolutionary Party (PRI) in Mexico controlled the presidency for 13 terms between 1929 and 2000. This final term is when Mexico (1994–2000) enters the term. Some parties can survive in office for much longer than any leader can, but overall, the distributions appear relatively similar.

I split the types of events that remove leaders and parties from power into elections and non-elections. Elections are self-explanatory. Either the leader loses a direct popular election or cannot form a coalition in the legislature. For parties, either the party's candidate loses a direct election, or the party cannot form a coalition that keeps one of its members in power.

Figure 4: Distribution of Terms



Non-elections include essentially everything else: impeachments, votes of no confidence, losses of cabinet support, resignations, retirements, and even coups on rare occasions. A few events are coded as being censored, meaning that the observation is treated as having survived past that term for an unknown period of time. When a leader cannot continue in office from legal term limits, they never truly lost power as a consequence of their actions. The same applies for deaths and assassinations.[5] Resignations and retirements spurred by health problems count as a non-election event, but leaders removed from office due to incapacitation—like prime ministers Keizō Obuchi of Japan and Ariel Sharon of Israel—are censored. Parties lose power through non-election events if the leader's replacement is not of the same party and not chosen through an election. Of the 751 leader terms, 142 (18.91%) lost power through an election and 260 (34.62%) through another event. An event was not experienced in 349 (46.47%) terms. Of the 606 party terms, 190 (31.35%) ended in an election loss and another 98 (16.17%) through another event. An event was not experienced

5. Only two leaders in the sample were assassinated, prime ministers Olof Palme of Sweden and Yitzhak Rabin of Israel.

in 318 (52.48%) terms.

I collected data on leader terms using the Archigos (Goemans, Gleditsch, and Chiozza 2009) and *Rules, Elections, and Irregular Governance* (REIGN; Bell 2016) datasets.[6] The year that I code a term starting depends on when the leader or party took power. If the leader or party took power in their first term after September, I code the term as beginning the following year unless the term ends in the same year. Otherwise, I code the term beginning that year. The leader or party's term always ends with the year that they left office except when transitions last several months. I code the parties as the incumbent's primary party affiliation. Most independent leaders will not have a party unless a party strongly supports their candidacy. This is particularly the case in countries like Poland where presidents are nominally independent but usually lead a party. Independents in parliamentary systems nominated by a coalition, such as the Olive Tree in Italy, are coded as having the coalition as their party. Presidential systems and presidents in mixed systems cannot have coalitions as parties because the nature of these offices is zero-sum.

Survival curves provide an overview of how risk, independent of covariates, change over time. Figure 5 presents survival curves for leaders and parties using the Aalen-Johansen estimator (see Aalen and Johansen 1978).[7] The y-axis displays the probability that an event is experienced in that term conditional on having survived to that term. Leaders and parties actually have similar survival curves except leaders are more susceptible to non-elections but parties to elections, and parties can survive to longer times.

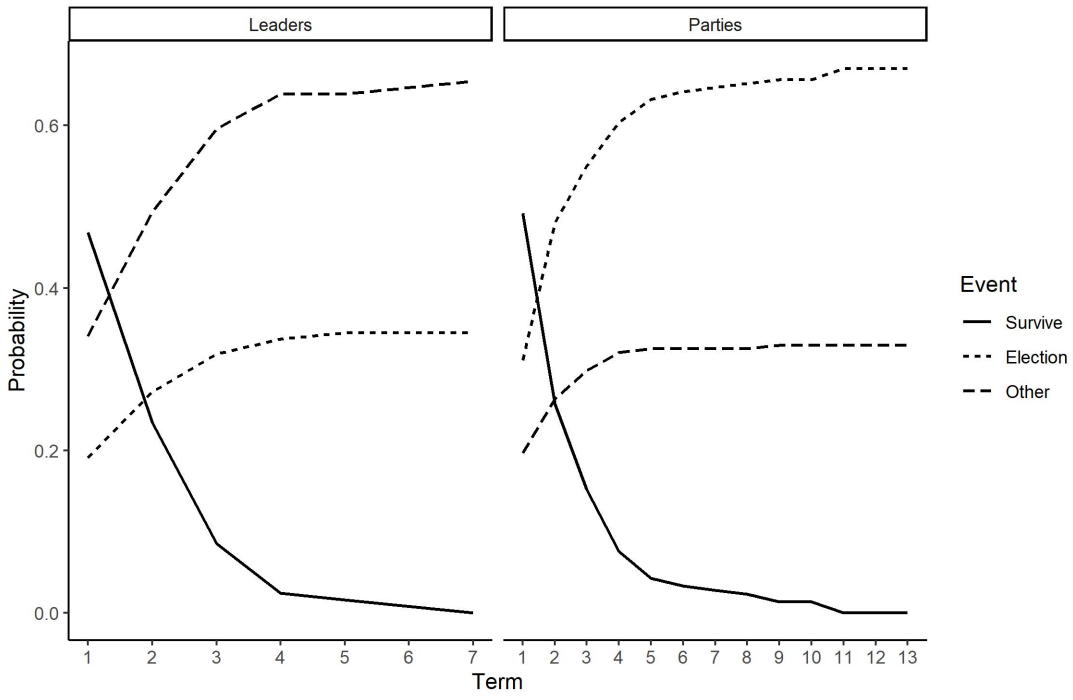
4.2.3 Independent Variables

The hypotheses establish two primary independent variables of interest: polarization and change in electoral democracy or change in the winning coalition size. Version 10 of V-Dem

6. The Archigos data are accessible from https://www.rochester.edu/college/faculty/hgoemans/data.htm. REIGN is updated monthly. I referred to version release in April 2020, but any of the 2020 versions have the required data. The most recent version is accessible from https://oefdatascience.github.io/REIGN.github.io/menu/reign_current.html.

7. Survival curves are usually presented with the Kaplan-Meier curve (see Kaplan and Meier 1958). However, Kaplan-Meier curves are inappropriate for competing risks data.

Figure 5: Survival Curves for Leaders and Parties by Term



provides a polarization measure with the most coverage across place and time currently available (Coppedge et al. 2020a).[8] This refers to the variable titled "political polarization" and labeled *v2cacamps* in the dataset rather than the related variable "polarization of society" (*v2smpolsoc*). The question asks country experts "Is society polarized into antagonistic, political camps?" and further clarified as "the extent to which polarized differences affect social relationships beyond political discussions. Societies are highly polarized if supports of opposing political camps are reluctant to engage in friendly interactions, for example, in family functions, civic associations, their free time activities and workplaces." Respondents have the options of

- Zero for "Not at all... Supporters of opposing political camps generally interact in a friendly manner";
- One for "Mainly not... Supporters of opposing political camps are more likely to interact in a friendly than a hostile manner";

8. V-Dem version 10 is accessible from https://www.v-dem.net/en/data/data-version-10/.

- Two for "Somewhat... Supporters of opposing political camps are equally likely to interact in a friendly or hostile manner";
- Three for "Yes, to [a] noticeable extent... Supporters of opposing political camps are more likely to interact in a hostile than friendly manner"; and
- Four for "Yes, to a large extent... Supporters of opposing political camps generally interact in a hostile manner" (Coppedge et al. 2020b, 211).

These ordinal responses are converted to an interval measurement through Bayesian item response theory (IRT; see Marquardt and Pemstein 2018; Pemstein et al. 2020). The interval scale is then converted to an interval measurement on the original scale between zero and four (which is labeled *v2cacamps_osp*). I take the average polarization value during a term. If the term includes years without a value, I exclude those years from the calculation. Table 2 includes summary statistics for this and other continuous variables.

The electoral democracy variable is more complex. I use variables that result from changes in the winning coalition size. The most sensible option is corruption. Smaller winning coalitions allow for greater corruption (Bueno de Mesquita et al. 2003; Chang and Golden 2010). Further, scholars recognize corruption as a clear aspect of democratic erosion. I measure corruption with McMann et al.'s (2016) variable built from V-Dem data. It averages the "executive bribery and corruption exchanges" (*v2exbribe*) and "executive embezzlement and theft" variables (*v2exembez*; Coppedge et al. 2020b, 110–11). Then, it reverses the scale so that higher values indicate greater corruption. I multiple the index by 100 so that it takes values of zero to 100. I take this value at the last year of the term and subtract the value at the start of the term to measure the change in corruption. If a term takes place within a single year, I take the change from the previous year. For example, Brazilian president Jair Bolsnaro has only been in office during 2019 for purposes of the sample. I measure the change since 2018 in his case. The other two democracy variables are calculated in the same way.

Table 2: Summary Statistics for Continuous Variables

Variable	N	Mean	Min.	Q1	Median	Q3	Max.
Leaders							
Polarization	741	1.59	0.124	0.867	1.35	2.32	3.92
Change in Corruption	749	-0.893	-46	0.00	0.00	0.00	44.1
Change in Private Goods	749	-0.559	-40.4	0.00	0.00	0.00	34.7
Change in Gini Coefficient	559	0.0438	-4.9	-0.3	0.1	0.4	5.5
Resource Wealth	500	2.39	0.00	0.198	0.7057	1.81	38.9
GDP Growth	699	0.03064	-0.369	0.011	0.0288	0.0465	2.87
Inflation	587	17.97	-1.2	2.48	4.69	8.91	823.8
Logged GDP per Capita	688	4.254	3.859	4.074	4.246	4.42	4.887
Logged Land Area	751	5.139	2.47	4.661	5.046	5.57	6.997
Logged Population	414	4.049	2.377	3.615	3.99	4.708	5.243
Coordination Goods	751	0.863	0.115	0.862	0.887	0.9065	0.953
Term Length in Years	751	2.385	0.00	1.00	2.00	4.00	6.00
Shape	751	11.03	0.00	10.00	12.00	13.00	13.5
Parties							
Polarization	597	1.593	0.124	0.867	1.368	2.32	3.918
Change in Corruption	604	-0.924	-49.7	-0.125	0.00	0.00	44.1
Change in Private Goods	604	-0.47	-40.4	-0.0254	0.00	0.00	34.7
Change in Gini Coefficient	440	0.0377	-4.9	-0.4	0.1	0.5	5.5
Resource Wealth	404	2.526	0.00	0.222	0.722	1.902	37.3
GDP Growth	567	0.0323	-0.396	0.0129	0.0284	0.0464	2.87
Inflation	469	19.2	-1.002	2.58	4.701	8.93	823.8
Logged GDP per Capita	558	4.25	3.86	4.073	4.25	4.42	4.89
Logged Land Area	606	5.12	2.47	4.63	5.028	5.57	7.00
Logged Population	355	4.005	2.37	3.603	3.96	4.59	5.24
Coordination Goods	606	0.865	0.115	0.8601	0.887	0.907	0.953
Term Length in Years	606	2.98	0.00	2.00	3.00	4.00	6.00

Note: The maximum N for leader variables is 751 and 606 for parties.

The second variable is private goods. A core prediction of selectorate theory is that smaller winning coalitions will receive less public goods (Bueno de Mesquita et al. 2003). I base the private goods variable on the "particularistic or public goods" variable (*v2dlencmps*) from V-Dem. The question asks "Considering the profile of social and infrastructural spending in the national budget, how 'particularistic' or 'public goods' are most expenditures"? They add the clarification that "Particularistic spending is narrowly targeted on a specific corporation sector, social group, region, party, or set of constituents. Such spending may be referred to as 'pork,' 'clientelistic,' or 'private goods.' Public-goods spending is intended to

benefit all communities within a society, though it may be means-tested so as to target poor, needy, or otherwise underprivileged constituents... We are interested in the relative value of particularistic and public-goods spending, not the number of bills or programs that fall into either category." Possible answers are:

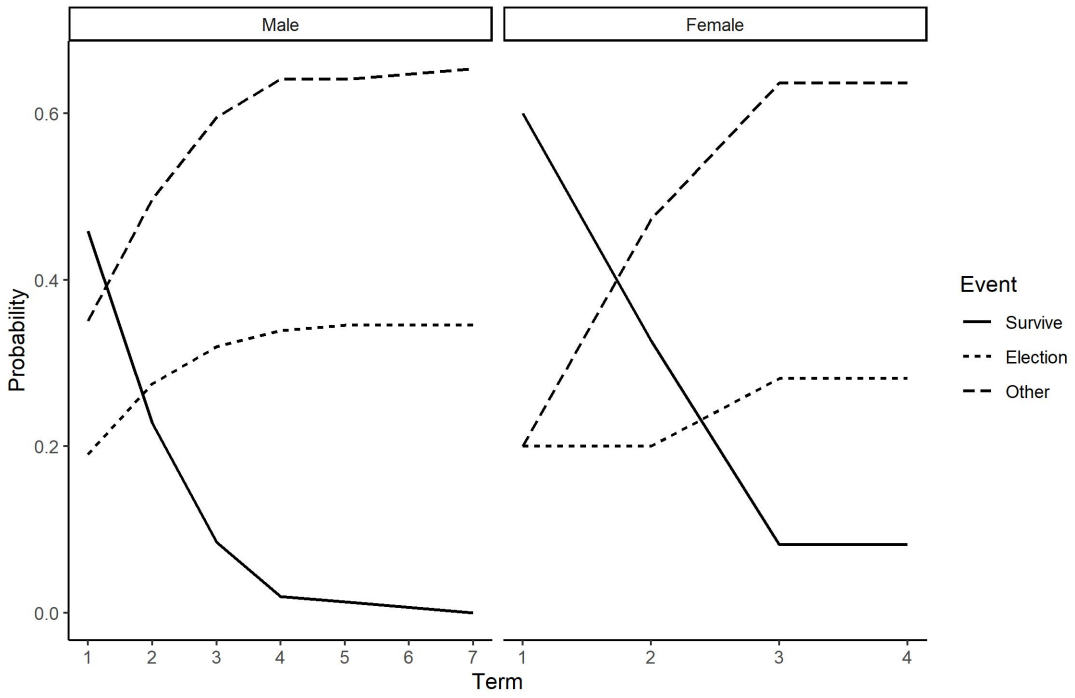
- Zero for "Almost all of the social and infrastructure expenditures are particularistic";
- One for "Most social and infrastructure expenditures are particularistic, but a significant portion (e.g. 1/4 or 1/3) is public-goods";
- Two for "Social and infrastructure expenditures are evenly divided between particularistic and public-goods programs";
- three for "Most social and infrastructure expenditures are public-goods but a significant portion (e.g. 1/4 or 1/3) is particularistic"; and
- Four for "Almost all social and infrastructure expenditures are public-goods in character... Only a small amount is particularistic" (Coppedge et al. 2020b, 151–52).

I take the version converted to an interval scale by Bayesian IRT and reverse the scale, so higher values indicate a greater focus on private goods, and I also rescale it to range from zero to 100. Then, I calculate the change over the term.

The last democracy measurement is income inequality. Smaller winning coalitions generally have greater income inequality (Kemp-Benedict 2011). I retrieve the Gini coefficient, a common measurement for income inequality, from the Standardized World Income Inequality Database (SWIID; Solt 2020).[9] As a percent, the Gini coefficient already ranges from zero to 100 with income inequality as the higher values, so I only calculate the change over the course of the term.

9. The SWIID data are accessible from https://fsolt.org/swiid/.

Figure 6: Survival Curves for Leaders by Gender



Sources: Leader gender from Archigos (Goemans, Gleditsch, and Chiozza 2009) and REIGN (Bell 2016).
Note: Survival curves calculated using the Aalen-Johansen estimator (see Aalen and Johansen 1978).

4.2.4 Controls

I also include several control variables in the models. For leaders, I account for the incumbency advantage. Selectorate theory predicts that leaders have an advantage over challengers because supporters know their position with the leader while their standing with the challenger is unknown (Bueno de Mesquita et al. 2003). This motivates the use of Weibull survival models, which are parametric and have the research set the baseline hazard. I account for the incumbency advantage by including a variable called "shape." Yearly data indicates that leaders of wealthy democracies become more likely to survive around years 12 to 15 depending on the type of risk. I calculate the shape parameter as the absolute difference between the number of years since the leader entered office and 13.5 ($\frac{12+15}{2}$).

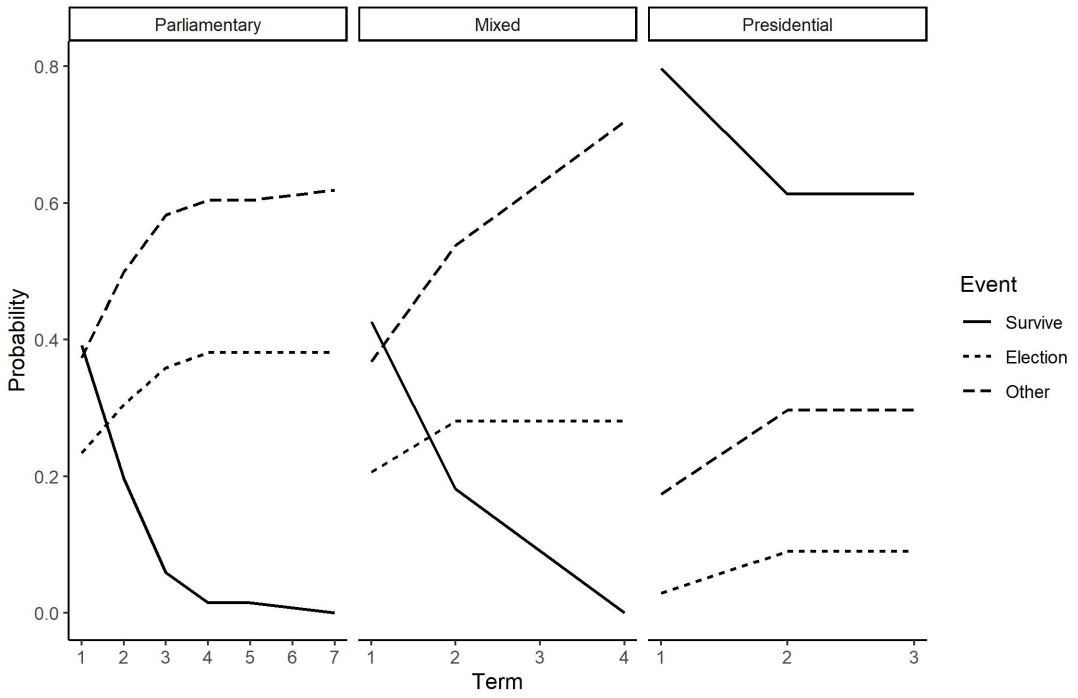
I also include the gender of leaders. This variable is a simple dummy variable with values for male and female. No leader in the sample identifies with another gender identity,

and all have identified as cisgender. I do not have specific expectations for how gender affects survival, but it seems reasonable that voters might treat or perceive women leaders differently from their male counterparts. Only 51 (7%) terms have a female leader. Figure 6 presents survival curves separated by leader gender. The descriptive evidence does not suggest a discernible difference, and women appear to have an initial advantage in survival, but it evens out.

The status of leaders is also included. Acting leaders, including prime ministers of caretaker governments and interim presidents, rarely run for reelection. Therefore, being an acting leader almost guarantees that they will not lose power through an election but will lose power by other means. Of the 751 terms, only 30 (4%) have an acting leader. Most leaders in presidential systems and many in mixed systems have term limits that prevent them from running for office. Term limits almost assure in the sense that I code leaving office due to term limits as a form of censoring. They cannot lose elections and are less likely to be removed through other means as people know that they will be leaving office soon. Since they cannot run for reelection, this variable is included as a coefficient only for non-electoral risks. Each is a dummy variable. Of the 751 terms, 30 (4%) have an acting leader and 69 (9%) a term-limited leader.

The type of democracy likely effects survival. Cheibub, Gandhi, and Vreeland (CGV 2010) split democratic regimes into parliamentary, mixed, and presidential. I retrieve this data from Bjørnskov and Rode (2020). The mixed coding generally refers to semi-presidential systems but can also include chief executives who are prime ministers. Figure 7 provides some descriptive evidence for possible relationships through leader survival curves separated by the political system. The parliamentary and mixed curves do not differ substantially from each other, but presidents are far more likely to survive and much less susceptible to losing elections. This is unsurprising given my coding of term-limited leaders, especially since many countries do not allow consecutive terms. For leader terms, 425 (56%) are parliamentary systems, 188 (25%) mixed, and 83 (11%) presidential. There are 55 (7%) terms

Figure 7: Survival Curves for Leaders by Regime Type



Source: Regime type from Bjørnskov and Rode's (2020) coding of DD (Alvarez et al. 1996; Cheibub, Gandhi, and Vreeland 2010).
Note: Survival curves calculated using the Aalen-Johansen estimator (see Aalen and Johansen 1978).

with missing data. For party terms, 337 (56%) are parliamentary, 148 (24%) mixed, and 77 (13%) presidents. Data are missing in 44 (7%) terms.

Finally, I includes several other variables that plausibly affect political survival. Most of these variables consider economic factors: GDP growth, logged GDP per capita, resource wealth per capita as a percentage of GDP per capita, and inflation. [10] Larger land area and populations complicate the provision of goods, so I included them logged. Civil liberties like the rights of association and assembly, or "coordination goods," are key to punishing leaders (Bueno de Mesquita and Downs 2005; A. Smith 2008). I use the V-Dem freedom of association index to represent coordination goods. Lastly, there is length of term in years. All variables are averaged over the term.

10. All logs refer to the common log of base ten.

4.2.5 Missing Data

Several observations have missing data. The number can determined by referring to table 2 and subtracting the N for each variable from the maximum number or the number of term-observations—751 for leaders and 606 for parties. No data are missing for the dependent variable, and only a few observations have missing data for the independent variables of interest. Rather than exclude these observations through listwise deletion, I use the form of multiple imputation (MI) implemented by the Amelia package for R (for technical details, see Blackwell, Honaker, and King 2017a; 2017b).[11] Each analysis is the result of 25 imputed datasets ($M = 25$). I impute 25 datasets for each model. The imputation takes into account every variable in the model, each electoral democracy variable, and the interaction term included in the model. Each dataset is analyzed individually and then combined through Rubin's (1987) rules (see also Buuren 2018; Enders 2010; Marshall et al. 2009).

5 RESULTS

Table 3 presents the results of the model testing the effects of corruption on leader survival. Negative coefficients indicate that the risk has decreased (higher survival probability); positive coefficients indicate greater risk (lower survival probability). The substantive effect is estimated for a given variable is

$$100(e^{\beta} - 1), \tag{1}$$

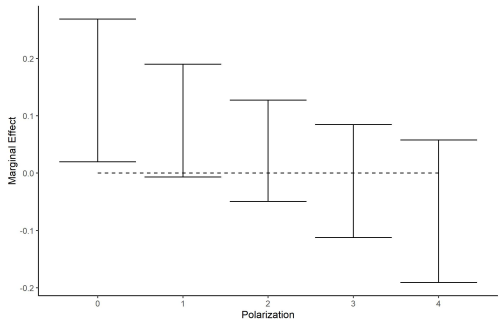
where β is the coefficient estimate (Box-Steffensmeier and Jones 2004, 60).[12] This model provides some support for both hypotheses. When polarization is zero, a one point increase in corruption increases the probability of losing power through an election by 15.53%. However, it decreases the probability of losing through another event by 10.44%. This supports

11. The Amelia package is accessible through https://cran.r-project.org/web/packages/Amelia/index.html.

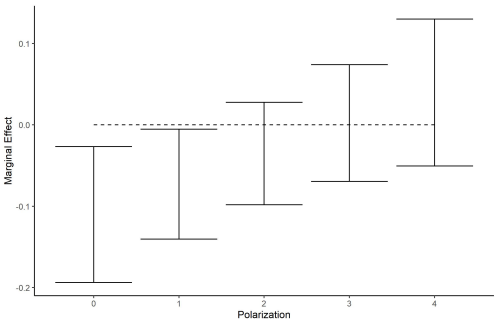
12. Technically, the full equation is $\frac{e^{\beta(x_i=X_1)} - e^{\beta(x_i=X_2)}}{e^{\beta(x_i=X_2)}} * 100$, where X_1 and X_2 represent two coefficient estimates of the same variable using two different estimation methods. When only one estimation is used, the second values default to zero, and $e^0 = 1$.

Figure 8: Marginal Effect Plots for Significant Interaction Terms

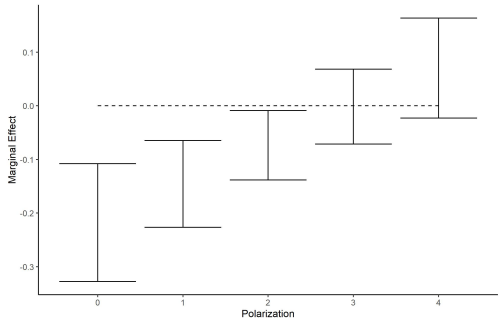
(a) Marginal Effect of Change in Corruption on Leader Losing Election



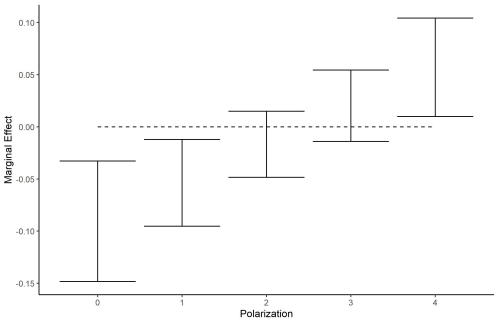
(b) Marginal Effect of Change in Corruption on Leader Non-Election Event



(c) Marginal Effect of Change in Corruption on Party Non-Election Event



(d) Marginal Effect of Change in Goods on Party Non-Election Event



Notes: Error bars represent 90% confidence intervals in subfigure a and 95% confidence intervals in subfigures b, c, and d.

hypothesis 1 in the context of elections but contradicts it otherwise.

Analysis of the second hypothesis requires looking at the marginal effect over different values of polarization. I focus on the integer values that expert respondents can give before conversion to the interval scale. Figure 8a presents change in corruption's marginal effect on the probability of a leader losing power through an election. Polarization very quickly erodes the effect of corruption. The effect loses significance by value one and remains insignificant. This broadly fits with the pattern expected by hypothesis 2 but undermines the selectorate hypothesis since polarization nullifies the effect so quickly. Figure 8b displays the opposite relationship regarding non-election events.

Table 3: Model Summary for Corruption and Leader Survival

	Elections		Other	
Variable	Est.	p	Est.	p
Polarization	0.0763	0.51	0.122	0.17
	(0.116)		(0.0888)	
Change in Corruption	0.144	0.06	-0.11	0.01
	(0.0756)		(0.0426)	
Polarization*Change in Corruption	-0.0527	0.05	0.0375	0.01
	(0.516)		(0.0153)	
Resource Wealth	0.00305	0.87	-0.0157	0.46
	(0.0189)		(0.021)	
Acting	-1.81	0.08	1.15	$p < 0.001$
	(1.05)		(0.19)	
Term-Limited			-1.24	0.009
			(0.475)	
Female	-0.356	0.38	-0.0798	0.74
	(0.406)		(0.244)	
GDP Growth	-1.16	0.44	-1.48	0.22
	(1.52)		(1.19)	
Inflation	-0.000752	0.71	0.000429	0.63
	(0.00202)		(0.0009)	
Logged GDP per Capita	0.723	0.16	-0.333	0.36
	(0.516)		(0.362)	
Logged Land Area	0.166	0.29	0.0123	0.93
	(0.154)		(0.137)	
Logged Population	-0.844	0.004	0.448	0.03
	(0.286)		(0.205)	
Coordination Goods	1.32	0.38	-0.0107	0.99
	(1.52)		(0.777)	
Term Length in Years	0.0692	0.34	-0.299	$p < 0.001$
	(0.0725)		(0.0558)	
Mixed System	-0.135	0.57	0.00347	0.98
	(0.238)		(0.167)	
Presidential System	-1.74	0.004	-0.167	0.62
	(0.594)		(0.342)	
Shape	-0.0127	0.84	0.164	0.002
	(0.0627)		(0.0526)	

Notes: Standard errors in parentheses.

Table 4: Model Summary for Corruption and Party Survival

	Elections		*Other*	
Variable	Est.	p	Est.	p
Polarization	0.0758	0.42	0.0461	0.75
	(0.094)		(0.14)	
Change in Corruption	0.0315	0.58	-0.218	$p < 0.001$
	(0.057)		(0.056)	
Polarization*Change in Corruption	-0.00573	0.77	0.072	$p < 0.001$
	(0.02)		(0.02)	
Resource Wealth	0.0115	0.44	-0.00633	0.83
	(0.015)		(0.03)	
GDP Growth	-2.72	0.08	-0.389	0.69
	(1.5)		(0.96)	
Inflation	-0.000837	0.56	0.00104	0.47
	(0.0014)		(0.0014)	
Logged GDP per Capita	0.335	0.39	-0.316	0.58
	(0.39)		(0.57)	
Logged Land Area	0.0853	0.5	0.216	0.25
	(0.13)		(0.19)	
Logged Population	-0.354	0.1	-0.232	0.48
	(0.21)		(0.33)	
Coordination Goods	2.71	0.08	-1.23	0.18
	(1.5)		(0.92)	
Term Length in Years	0.19	0.001	-0.44	$p < 0.001$
	(0.06)		(0.08)	
Mixed System	0.00947	0.96	-0.0891	0.76
	(0.2)		(0.29)	
Presidential System	-0.132	0.64	0.211	0.61
	(0.28)		(0.41)	

Notes: Standard errors in parentheses.

Table 4 turns to the analysis of corruption regarding party survival. Change in corruption does not have a significant effect on the probability of losing elections but does for other events. Like the leader model, a one point increase in corruption lowers the hazard, specifically by 3.2%. The marginal effects in figure 8c shows a similar relationship to figure 8b. At lower levels of polarization, increasing corruption decreases the risk, but this effect grows weaker as polarization increases, eventually becoming insignificant.

The private goods variable shows similar relationships. According to table 7, increases in private goods do not have a significant effect on the risk of election events but decrease the risk of other events by -4.03%. The interaction term does not have a significant effect, so I do not include a marginal effects plot. The save space, the tables for models without significant effects are shown in the appendix. Table 5 shows the effect on party survival. Again, we see no significant effect regarding elections with a negative coefficient for other events. A one point increase in private goods decreases the hazard by 8.66%. The marginal effects in figure 8c shows the same relationship that we have seen in other interaction terms regarding non-election events. Finally, we turn to income inequality. The variable does not have an effect regardless of the unit of observation or the event type. Table 8 presents the results for leaders and table 6 for parties.

6 DISCUSSION & CONCLUSION

The model testing the effect of changes in corruption on leader survival provided the most support for my theory. Without polarization present, increases in corruption, which should represent democratic erosion, increased the probability that a leader lost an election. The introduction of polarization quickly nullifies this effect. Indeed, it disappears rather quickly. Almost any amount of polarization causes the effect to become insignificant. Corruption was expected to be the strongest variable since it captures both a direct process of democratic erosion and outcome of decreasing winning coalition sizes. Further, it is likely the variable most obvious to voters.

Table 5: Model Summary for Private Goods and Party Survival

	Elections		*Other*	
Variable	Est.	p	Est.	p
Polarization	0.071	0.45	-0.018	0.9
	(0.095)		(0.14)	
Change in Private Goods	0.015	0.6	-0.091	0.002
	(0.029)		(0.029)	
Polarization*Change in Private Goods	-0.0075	0.56	0.037	0.001
	(0.013)		(0.011)	
Resource Wealth	0.011	0.48	-0.0011	0.97
	(0.015)		(0.027)	
GDP Growth	-2.8	0.08	-0.51	0.53
	(1.6)		(0.81)	
Inflation	-0.00025	0.83	0.0004	0.78
	(0.0012)		(0.0014)	
Logged GDP per Capita	0.38	0.33	-0.044	0.93
	(0.39)		(0.52)	
Logged Land Area	0.082	0.51	0.15	0.44
	(0.12)		(0.19)	
Logged Population	-0.33	0.11	-0.23	0.47
	(0.21)		(0.31)	
Coordination Goods	3.04	0.05	-2.03	0.03
	(1.6)		(0.93)	
Term Length in Years	0.2	$p < 0.001$	-0.47	$p < 0.001$
	(0.055)		(0.073)	
Mixed System	-0.0065	0.97	0.11	0.68
	(0.19)		(0.27)	
Presidential System	-0.13	0.63	0.28	0.49
	(0.27)		(0.4)	

Notes: Standard errors in parentheses.

The other models with change in corruption and change in private goods that had significant results displayed the opposite pattern. Change in corruption for leaders and parties and change in private goods for non-elections actually caused the risk of losing power through a non-election event to decrease initially and then became insignificant with polarization. The change in the Gini coefficient had no significant effect. The results do not present an obvious explanation for this pattern. My experience preparing the data presents some ideas. For example, leaders and parties, especially in presidential systems, who engage in democratic erosion often have control over the legislature, so impeachment proceedings or votes of no confidence are unlikely.

Another consideration is that selectorate theory overestimates the ability of voters in the winning coalition to install a challenger. This is where democratic leaders might have a survival advantage over autocratic leaders. Voters often must wait for elections to remove a leader, especially in presidential and semi-presidential systems. On the other hand, parliamentary systems have some control over election timing. They could theoretically use this power to hold elections before the electorate has fully noticed democratic erosion and would then have several years before needing to face an election. If leaders and their parties can erode democracy quickly enough, then the winning coalition might not have a genuine opportunity to overthrow the leader. Future research should examine these and other possible explanations.

Future research could also consider testing individual-level or mixed-level effects. Two papers have applied experiments to selectorate theory (e.g., Bausch 2014; 2017), but other individual-level methods like surveys have not been utilized in this context. Using surveys to test selectorate theory and polarization together would allow for more precise measurements of the causal mechanism. Surveys could directly test the strength of people's identities. Existing cross-national resources like the Comparative Study of Electoral Systems (CSES) could facilitate these types of analyses. Geographic data combined with surveys could also allow for more targeted estimates of the effects of public goods. Selectorate theory, theo-

retically and often empirically, assumes that public goods are evenly distributed nationally. However, leaders can target goods to geographic units that support them. Survey methods, overall, could provide greater internal and external validity.

To an extent, the results provide an answer to the earlier question. Polarization allows corrupt leaders to win elections despite their actions. Given the connection between corruption and democratic erosion, this signals that leaders who attack democracy can also win elections when polarization is present. Still, further research is necessary to add more evidence, clarify these relationships, and explain some of the unexpected results found in other models.

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APPENDIX

Table 6: Model Summary for Gini Coefficient and Party Survival

	Elections		*Other*	
Variable	Est.	p	Est.	p
Polarization	0.091	0.35	-0.013	0.93
	(0.097)		(0.15)	
Change in Gini Coefficient	0.17	0.23	-0.28	0.29
	(0.14)		(0.26)	
Polarization*Change in Gini Coefficient	0.022	0.8	0.21	0.11
	(0.085)		(0.13)	
Resource Wealth	0.014	0.32	-0.003	0.91
	(0.014)		(0.027)	
GDP Growth	-2.06	0.2	-0.33	0.68
	(1.6)		(0.8)	
Inflation	-0.001	0.51	0.0	0.98
	(0.0012)		(0.0014)	
Logged GDP per Capita	0.37	0.3	-0.16	0.77
	(0.36)		(0.54)	
Logged Land Area	0.11	0.38	0.19	0.34
	(0.13)		(0.2)	
Logged Population	-0.4	0.07	-0.28	0.43
	(0.22)		(0.35)	
Coordination Goods	2.77	0.07	-1.53	0.12
	(1.5)		(0.97)	
Term Length in Years	0.18	0.002	-0.47	$p < 0.001$
	(0.056)		(0.076)	
Mixed System	0.005	0.98	0.11	0.67
	(0.19)		(0.27)	
Presidential System	0.02	0.94	0.49	0.24
	(0.27)		(0.42)	

Notes: Standard errors in parentheses.

Table 7: Model Summary for Private Goods and Leader Survival

	Elections		Other	
Variable	Est.	p	Est.	p
Polarization	0.112	0.31	0.104	0.24
	(0.111)		(0.0881)	
Change in Private Goods	0.0327	0.47	-0.0411	0.1
	(0.0454)		(0.0251)	
Polarization*Change in Private Goods	-0.00548	.79	0.017	0.13
	(0.0202)		(0.0114)	
Resource Wealth	0.00799	0.62	-0.0206	0.31
	(0.0163)		(0.0201)	
Acting	-1.81	0.08	1.22	$p < 0.001$
	(1.03)		(0.189)	
Term-Limited			-1.08	0.02
			(0.472)	
Female	-0.437	0.29	-0.0656	0.79
	(0.415)		(0.241)	
GDP Growth	-1.33	0.3	0.00828	0.15
	(1.28)		(1.17)	
Inflation	-0.000866	0.65	0.000152	0.86
	(0.00193)		(0.000858)	
Logged GDP per Capita	0.601	0.22	-0.3	0.4
	(0.493)		(0.356)	
Logged Land Area	0.192	0.25	0.00828	0.95
	(0.167)		(0.135)	
Logged Population	-0.879	0.004	0.448	0.02
	(0.292)		(0.186)	
Coordination Goods	1.16	0.43	-0.27	0.73
	(1.47)		(0.793)	
Term Length in Years	0.0678	0.35	-0.295	$p < 0.001$
	(0.0723)		(0.0553)	
Mixed System	-0.145	0.52	0.0257	0.88
	(0.224)		(0.171)	
Presidential System	-1.85	0.004	-0.278	0.46
	(0.644)		(0.373)	
Shape	-0.0104	0.87	0.162	0.002
	(0.062)		(0.0531)	

Notes: Standard errors in parentheses.

Table 8: Model Summary for Gini Coefficient and Leader Survival

	Elections		Other	
Variable	Est.	p	Est.	p
Polarization	0.12	0.28	0.109	0.22
	(0.112)		(0.0883)	
Change in Gini Coefficient	0.183	0.45	0.183	0.52
	(0.243)		(0.179)	
Polarization*Change in Gini Coefficient	-0.0292	0.85	0.0204	0.84
	(0.152)		(0.1)	
Resource Wealth	0.00533	0.76	-0.0184	0.35
	(0.0173)		(0.0196)	
Acting	-1.86	0.07	1.21	$p < 0.001$
	(1.03)		(0.18)	
Term-Limited			-1.07	0.02
			(0.47)	
Female	-0.37	0.36	-0.113	0.64
	(0.404)		(0.245)	
GDP Growth	-1.02	0.43	-1.2	0.25
	(1.28)		(1.05)	
Inflation	-0.00107	0.64	-0.000145	0.86
	(0.00229)		(0.000824)	
Logged GDP per Capita	0.766	0.12	-0.321	0.37
	(0.492)		(0.354)	
Logged Land Area	0.172	0.3	0.0198	0.88
	(0.164)		(0.134)	
Logged Population	-0.847	0.005	0.443	0.02
	(0.292)		(0.193)	
Coordination Goods	1.16	0.42	-0.258	0.73
	(1.44)		(0.746)	
Term Length in Years	0.064	0.39	-0.297	$p < 0.001$
	(0.0749)		(0.0568)	
Mixed System	-0.144	0.52	0.0271	0.87
	(0.221)		(0.165)	
Presidential System	-1.68	0.008	-0.172	0.63
	(0.625)		(0.353)	
Shape	0.0013	0.99	0.17	0.001
	(0.0637)		(0.052)	

Notes: Standard errors in parentheses.